

Title

Object Restraining Device and System

Background of the Invention

Object restraining devices and systems are known in the art. Specifically, an invention limited to a gun support glove is disclosed in U.S. Patent no. 5,864,884, to Salvitti, which is incorporated herein as though set forth in full. However, none of the known art discloses the flexibility, ease of use and other benefits of the object restraining device and system of the current invention.

Summary of the Invention

The invention includes embodiments of a device and system for restraining an object proximally to a hand or arm of a user.

The invention includes a device restraining an object proximally to a hand of a user. The device includes an arm member and at least one attachment member, and the at least one attachment member is attachable to the arm member. The object is restrainable proximally to the hand by extending the at least one attachment member between one side of the hand and another side of the hand, wherein the object is positioned between the hand and the at least one attachment member. The object can be an inanimate or a living being.

The at least one attachment member can have a first end, which can be removably attachable to the arm member. The at least one attachment member can be positioned around the arm member when the at least one attachment member is not extended around the object.

The device can further have a raised portion, and the at least one attachment member can be attachable to the raised portion.

The arm member can be attached to a glove or to a sleeve.

The object can be attachable to the hand by extending the at least one attachment member between the palm side and the outer side of the hand, whereby the object is positioned between the hand and the at least one attachment member. More specifically, the object can be positioned between the palm side of the hand and the at least one attachment member. The arm member can further have a pivoting portion, which pivots when the at least one attachment member is positioned around the object. In addition, the pivoting portion can have a memory member.

The object can be a gun.

The invention also includes a system for restraining an object to a hand of a user. The system can include an object restraining device, which has an arm member and at

least one attachment member. The system further has an object that has at least one groove. The object is attachable to the hand by extending the at least one attachment member between one side of the hand to another side of the hand. The object is positioned between the hand and the at least one attachment member, wherein the at least one attachment member is retainable in the at least one groove.

The invention also includes a groove member, which is attachable to an object. The groove member includes a groove side and an attachment side. The groove side has a groove, and the attachment side is attachable to an object.

The invention further includes an attachment member for restraining an object proximally to a hand of a user. The attachment member includes at least one first end, at least one second end, and at least one intermediate portion located between the first end and the second end. The first end includes an attacher and the second end includes an attacher. The attacher can be a bracket.

The invention further includes a stick training system. The system includes a practice stick and a device for attaching a practice stick to a hand of a user. The device includes an arm member and at least one attachment member. The practice stick is attachable to the hand by

extending the at least one attachment member between one side of the user's hand and another side of the user's hand, wherein the practice stick is attachable between the hand and the at least one attachment member.

The invention also includes a system for restraining a gun to the hand of a user, where the system includes an object restraining device and a gun. The device includes an arm member and at least one attachment member. The gun is restrainable to the hand by extending the at least one attachment member between one side of the hand and another side of the hand, wherein the gun is positioned between the palm side of the user's hand and the at least one attachment member. In addition, the gun can be releasable from being restrained by the device to the hand of the user when the user flicks his or her wrist. Also, the gun can be releasable from being restrained by the device to the hand of the user by restricting the movement of the barrel and by pulling the user's hand off the end of the handle. The gun can experience muzzle flip when fired, and the device can stabilize the gun in the hand of the user when muzzle flip occurs.

The invention also includes a device for restraining a living being proximally to an arm of a user. The device includes an arm member and at least one attachment member.

The living being is restrainable to the user's arm by extending the at least one attachment member between one side of the arm and another side of the arm, wherein the living being is positioned between the arm and the at least one attachment member. The neck of the living being can be positioned between the arm and the at least one attachment member. The device can be used for purposes including self-defense, the military and law enforcement.

Brief Description of the Drawings

The accompanying drawings, which are incorporated in and form a part of the specification, illustrate the embodiments of the present invention and, together with the description, serve to explain the principles of the invention.

Figs. 1A and 1B are perspective views of embodiments of the invention.

Fig. 2 is a side perspective view of an embodiment of the invention.

Fig. 3 is a side perspective view of an embodiment of the invention.

Fig. 4 is a perspective view of an embodiment of the invention.

Fig. 5 is a partial cut away perspective view of an embodiment of the invention.

Fig. 4 is a perspective view of an embodiment of the invention.

Fig. 6 is a perspective side view of an embodiment of the invention.

Fig. 7 is a perspective side view of an embodiment of the invention.

Fig. 8 is a perspective side view of an embodiment of the invention.

Fig. 9 is a perspective side view of an embodiment of the invention.

Fig. 10 is a perspective side view of an embodiment of the invention.

Fig. 11A is a front partial view of an embodiment of the invention.

Fig. 11B is a side partial perspective view of an embodiment of the invention.

Fig. 12 is a perspective view of an embodiment of the invention.

Fig. 13 is a perspective view of an embodiment of the invention.

Fig. 14 is a perspective view of an embodiment of the invention.

Fig. 15 is a rear partial view of an embodiment of the invention.

Fig. 16 is a rear partial view of an embodiment of the invention.

Fig. 17 is a perspective view of an embodiment of the invention.

Fig. 18 is a perspective view of an embodiment of the invention.

Fig. 19A is a perspective view of an embodiment of the invention.

Fig. 19B is a cross section view taken at line 19B-19B of Fig. 19A.

Fig. 19C is a perspective view of an embodiment of the invention in use.

Fig. 20A is a perspective view of an embodiment of the invention.

Fig. 20B is a perspective view of an embodiment of the invention.

Fig. 20C is a perspective view of an embodiment of the invention.

Fig. 21A-21C are perspective views of an embodiment of the invention in use.

Fig. 22 is a perspective view of an embodiment of the invention in use.

Fig. 23 is a perspective view of an embodiment of the invention in use.

Fig. 24A-24C are perspective views of an embodiment of the invention in use.

Detailed Description of the Preferred Embodiments

With reference to the drawings, and in particular to Figures 1 through 24C thereof, embodiments of a new object restraining device 30 and system are described. As illustrated in these Figures, the invention includes a device 30 for restraining an object 50 proximally to a hand 42 or arm 56 of a user. The object 50 can be any kind of object 50 that a user might want to try to restrain. It is to be noted that while implements such as guns, knives, training sticks and tools are illustrated in the Figures, the illustrated objects are exemplary only, and not intended to be limiting. In addition, as will be described later, the object 50 could be a living being, such as a human or animal. The device 30 can restrain an object 50 to the hand or arm 56 of the user for a variety of purposes. As will be further described in more detail later, the extent to which the object 50 contacts the hand 42 or arm 56 of the user can vary.

As clearly illustrated in these Figures, the device 30 includes an arm member 32 and at least one attachment member 34. As further seen in these Figures, the user's hand 42 has more than one side. Among other sides, a

user's hand **42** includes a palm side **44** and an outer side **46**, and a user's arm **56** has corresponding sides, including a palm side **44** and outer side **46**. An object **50** is attachable to the hand or arm **56** of a user by extending the at least one attachment member **34** between two sides of the user's hand **42**. The Figures illustrate the at least one attachment member **34** extending between the palm side **44** and the outer side **46** of the hand, wherein the object **50** is positioned between the hand and the at least one attachment member **34**. In these Figures, the object **50** is positioned between the palm side **44** of the user's hand **42** and the at least one attachment member **34**; however, it would be possible to place the object **50** between the outer side **46**, or other sides or portions, such as but not limited to the right side and the left side, of the user's hand **42** and the at least one attachment member **34**. The object **50** also could be positioned between one of the sides of a user's arm **56** and the at least one attachment member **34**.

In the embodiments illustrated, the arm member **32** is attached generally at the intersection of the hand and the arm of the user, which is the wrist **48**. However, it is to be understood that the device **30** can be attached to the forearm, the hand, or other portions of the arm **56**.

When the object **50** is positioned between the at least one attachment member **34** and the user's hand **42** or arm **56**, the object **50** is pushed toward the user's hand **42** or arm **56** by the inward directed force of the attachment members **34** toward the user's hand **42** or arm **56**. It is to be noted that attachment members **34** can me made from a variety of materials, and can have a variety of widths, lengths and densities. The inward force of the attachment members **34** will vary based upon variables including but not limited to the materials, widths, lengths and densities of the attachment members **34**.

The amount of force exerted on the object **50** by the at least one attachment member **34** toward the hand of the user in conjunction with elements including, but not limited to, the weight, shape, and actions of the object **50** can have varying effects on the extent to which the device **30** restrains the object **50**. The device **30** can restrain an object **50** to varying degrees on a continuum between maintaining proximity between the user and the object **50** and affixing the object **50** to the hand **52** or arm **56** of the user. When the force is great in relation to the weight, shape and action of the object **50**, the device **30** can hold the object **50** to the hand **42** or arm **56** of the user. When the force is not as great in conjunction with the weight,

size and action of the object **50**, the device **30** may not be able to hold the object **50** to the hand **42** or arm **56** of the user; however, the device **30** could be used to stabilize the object **50** in the user's hand **42** or to assist in maintaining contact or proximity between the user's hand **42** or arm **56** and the object **50**.

The materials from which made, and the width, length and density of an attachment member **34** also can vary. Varying these elements of the at least one attachment member **34** could be desirable in relation to a number of elements affecting the use of the device **30**, including, but not limited to the varying sizes of the hand of the anticipated user, sizes of the anticipated object **50** with which the device **30** will be used, amounts of elasticity, and amounts of force that are desired to be asserted on the object **50** against the hand of the user.

The attachment members **34** can be made of any material that is pliable so that it will bend around the hand of the user. Materials with memories, such as elastic and rubber, can be beneficial in that they will stretch with varying hand and object **50** sizes and with varying movements by the user or the object **50**. An attachment member **34** could be a strap commonly known as a bungee cord. However, non-stretchy materials also could be used, such as, but not

limited to, leather, polyester, textiles, plastic, metals, papers and combinations thereof. In addition, the strengths of the various materials could vary.

As illustrated in Fig. 4 the length of the attachment member 34 can be adjustable.

The attachment members 34 could be made in any width and density to the extent that the portion that will be located between the fingers 58 or outer ends of the fingers 58 of the user will not be too wide or thick to prevent the user from using his or her fingers 58. In addition, the extent to which the width or density of the attachment members 34 will cause comfort, or discomfort or pain, to the user will be a consideration in determining the optimal width. In this regard, it is possible that attachment members 34 that are too wide or too thin could cause discomfort.

The device 30 can have any number of attachment members 34. By way of example and not intending to be limiting, between two and five attachment members 34 are illustrated. Figs. 1 through 4 illustrate an embodiment of the device 30 that has two attachment members 34. In the embodiments illustrated in Figs. 2 and 3, the attachment members 34 pass between the first finger and the second finger, and between the third finger and the fourth finger

of the user. Figs. 9 and 10 illustrate an embodiment with three attachment members 34. Figs. 5 and 6 illustrate an embodiment with five attachment members 34. As seen in Fig. 6, the attachment members 34 can pass between each of the fingers 58 and on the outer ends of the first and fourth fingers 58.

It is to be understood that an attachment member 34 can pass between the fingers 58 or on the outer edges of the fingers 58 of the user in configurations other than those illustrated in the Figures 1 through 24C. The illustrated configurations of the attachment members 34 through the fingers 58 are exemplary. It is also to be understood that other numbers of attachment members 34 could be attached to the arm member 32. In addition, it is to be understood that the attachment members 34 could pass through any of the fingers 58, or along the outside ends of the fingers 58, as desired by the user. It would be possible to pass more than one attachment member 34 between two fingers 58 and/or on the outer edges of the fingers 58.

The arm member 32 can be made of any material that can bend around the arm 56 of the user. Materials include, but are not limited to textiles, leather, metals, plastics, polyesters, papers, combinations thereof, and the like.

Arm members **32** can be made of the hook and loop material commonly known under the trademark Velcro®. As will be described in more detail later, in such an embodiment, attachment member attachers **54** and arm member closures pieces **64** that are made of the complimentary hook and loop material can be directly connectable to the arm member **32**. In addition, if the arm member **32** is made of a material that is not a hook and loop material, such as, but not limited to, leather, metals, plastics, polyesters, textiles and the like, at least one strip **62** of hook and loop material can be added to the arm member **32** to provide a surface for the attachment of the complimentary portion of the hook and loop material of an attacher **54** or closure piece **64**. In these embodiments, generally, the arm member **32** will be made of the loop material and the attachers **54** and/or closures pieces **64** will be made of the hook material; however, the opposite arrangement would be possible.

It is to be noted that it would be possible to make an arm member **32** of a material that is not easily cut, such as, but not limited to leather, including suede, plastics, and metals. In such embodiments, the arm member could also serve as a gauntlet, in that it could protect the arm of the user from being cut. The duel use of the arm member **32**

as a gauntlet would be useful in many situations, including but not limited to, when the object retaining device **30** is used with sharp objects, including but not limited to, knives, swords and the like.

The arm member **32** can be a wrist band that has two closure ends **66** that close around the arm **56** of the user by a variety of means currently known in the art or to be discovered. By way of example, and not intending to be limiting, the arm member **32** can be closed by hook and loop material, hooks, buttons, ties, zippers, bolts, rivets, screws, clamps, pins and the like. Optionally, the arm member **32** closure **66** could be easily separable. In such an embodiment, the arm member **32** could be easily removed from the arm **56** of the user. This embodiment could be beneficial for reasons including, but not limited to, safety, and convenience.

As specifically illustrated in Fig. **4**, another embodiment of the arm member **32** may not have a closure. Such an embodiment could be, but is not limited to, an arm member **32** that is made of a continuous band that could be pulled over the hand of the user. Optionally, in this embodiment, the arm member **32** can be made of a stretchy material.

In Figs. 7 and **24A** through **24C**, the arm member **32** of the object restraining device **30** is part of a sleeve **124**. Referring specifically to Fig. 8, an object restraining device **30** in which the arm member **32** is part of a glove **122** is illustrated. In these embodiments the device **30**, as part of the glove **122** or the sleeve **124**, functions similarly to the devices **30** in which the arm member **32** is a wristband. It is to be understood that a wristband arm member **32** can be attached integrally or non-integrally to a glove **122** or a sleeve **124**.

The at least one attachment member **34** generally will have two ends **68** and an intermediate portion **40** between the two ends **68**. However, alternatively, an attachment member **34** could be a single circular band that encircles the arm member **32**.

When the attachment member **34** has two ends **68**, each end may have an attacher **54** that either fixedly or removably attaches the end **68** to the arm member **32**. One end **68** or both ends **68** of an attachment member **34** could be an attacher **54** that is a continuation of the material that comprises the intermediate portion **40** of the attachment member **34**, and these ends **68** could be removably attachable or fixedly attached to the arm member **32**. Alternatively, one or both ends **68** of an attachment member **34** be an

attacher 54 that differs from the intermediate portion 40 of the attachment member 34, as will be described in more detail later.

Both ends 68 of the at least one attachment member 34 can be fixedly attached to the arm member 32. Fig. 4 illustrates a device 30 with two attachment members 34 that are fixedly attached to the arm member 32. As seen in Fig. 4, two ends 68 of the attachment members 34 are sewn onto the arm member 32. It is to be understood that, while not shown, the other ends 68 of the attachment members 34 could be similarly sewn.

Optionally, the ends 68 could be attached to the arm member 32 in an off-set attachment arrangement, similar to the off-set, rather than parallel, attachment arrangement, illustrated in Figures 1A, 2, 5, 6, 7, 8, 9 and 10. It is to be noted that the off-set, and optionally diagonal, attachment arrangement enables the separate attachment members 34 to align with separate fingers 58, and to avoid crossing over one another when the attachment members 34 are extended from one side of the hand to the other side of the hand.

Optionally, the length of the intermediate portion 40 can be adjustable. The adjustment could be accomplished by any of the techniques and mechanisms currently known in the

art or to be discovered. The clasp adjustment mechanism illustrated in Fig. 4 is well known in the art. However, it is to be understood that this mechanism is intended to be exemplary and not limiting. A fixedly attached attachment member **34** could be of other configurations known in the art or to be discovered.

In some embodiments, the two ends can be referred to as a first end **36** and a second end **38**. The first end **36** is the end that is readily removable from and attachable to the arm member **32** and the end that the user predominately manipulates to extend the attachment member **34** from one side to the other side of the hand. The second end **38** is the end that the user usually does not move when the user is restraining the object **50** between the attachment member **34** and the hand. Generally the first end **36** terminates on the palm side **44** of the arm **56** or hand **42** and the second end **38** terminates at the outer side **46** of the arm **56** or hand when the device **30** is in use. However, it would also be possible to have the opposite configuration.

It also would be possible not to have an end that is predominately manipulated. In such a case, one end could be designated the first end **36** and the other end could be designated the second end **38** at random.

In Figs. 1 through 3, 5 through 8, and 19C, more than one attachment member 34 is included in the devices 30. In the embodiments illustrated, the first ends 36 are removably attachable to the palm side 44 of the arm member 32. To use the device 30, each attachment member 34 can be extended from the outer side 46 of the hand through two fingers 58 or along the outer end of the first or fourth finger and then to the palm side 44 of the hand. In these Figures the attachment member 34 is attached in a manner whereby the first end 36 attacher 54 of each attachment member 34 is affixed on the palm side 44 of the arm member 32 with the object 50 positioned between the hand 42 and the attachment members 34. As illustrated in these Figures, since the second ends 38 are attached to the outer side 46 of the arm member 32, when the attacher 54 of the first end 36 is attached to the palm side 44 of the arm member 32, the attachment member 34 is securely extended between the outer side 46 and the palm side 44 of the hand with the object 50 positioned between each attachment member 34 and the hand 42 of the user.

It is to be understood that the opposite configuration would also be possible, in that the first end 36 could be removably attachable to the outer side 46 of the arm member 32, while the second end 38 could be attached to the palm

side **44** of the arm member **32** in a non-readily removable manner. In such an embodiment, each attachment member **34** would be extended from the palm side **44** of the hand to the outer side **46** of the hand and affixed to the outer side **46** of the arm **56**. In addition, in the Figures illustrated, the object **50** is positioned between the palm side **44** of the hand and the attachment members **34**. However, it would be possible to position the object **50** between the outer side **46** or another side of the hand and the attachment member **34**.

While not illustrated, it is to be understood that an attachment member **34** could start at the palm side **44**, loop around the object **50** and then attach at the palm side **44**. In such an embodiment, both the first end **36** and the second end **38** would terminate at the palm side **44** of the arm **56**. The reverse embodiment could also be possible, with both the first end **36** or the second end **38** terminating on the outer side **46** of the arm **56** or another side of the arm **56**.

As illustrated in Figs. **1A** through **3** and **24A**, when the attachment members **34** are not in use, they can be wrapped around the arm member **32**. If the arm member **32** is made of hook and loop material, the hook and loop attacher **54** can simply attach to the arm member **32**. If the arm member **32** is not made of hook and loop material, at least one piece

62 of hook and loop material can be attached to the arm member **32**, to which the hook and loop attacher **54** can be attached. In addition, when not in use, the at least one attachment member **34** can be looped around and attached to the arm member **32** by other mechanisms and means of attachment currently known in the art or to be discovered. By way of example, and not intending to be limiting, and as will be described in more detail later, the attachment member can be attached to the arm member **32** by bracket attacher and attachment element, by rivet, by hook-like fastener and the like. Having the arm member **32** and the attachment members **34** wrapped around the user's wrist **48** or arm **56** enables the user to wear the device **30** without interference with the user's hands **42**, while also having the device **30** available for use when needed. It is to be understood that other benefits can be gained from the device **30**.

The first end **36** and second end **38** can have variety of combinations of attachability. As illustrated in Figs. **7**, **8**, **9** and **10**, the first end **36** can be removably attachable to the arm member **32**, while the second end **38** is fixedly attached. As illustrated in Figs. **1A**, **1B**, **5** and **6**, the first end **36** can be removably attachable to the arm member **32**, while the second end **38** is non-readily removably

attached. When the second end **38** is non-readily removably attachable, it can be removed from the arm member **32**, however, it is attachable to the arm member **32** in a manner that will require some effort to remove the second end **38**. As illustrated in Figs. **12**, **13**, **14**, **17**, **18** and **21**, the first end **36** can be removably attachable to the arm member **32**, while the second end **38** is readily removably attachable. When the second end **38** is readily removably attachable, it can be removed with a quick movement by the user.

The first end **36** of an attachment member **34** can have a variety of types of attachers **54**, mechanisms and/or treatments to removably attach the first end **36** to the arm member **32**. In the Figs. **1** through **3**, **5** through **8**, and **19C**, the first ends **36** include a hook and loop tab **80** that is removably attachable to the arm member **32** by the hook and loop material commonly known under the trademark Velcro®. In Figs. **1A**, **1B**, **6** and **7**, the arm member **32** includes a hook and loop insert **62** onto which the first end **36** attacher tab **80** may be attached. In Figs. **2** and **3**, the arm member **32** itself is made of the hook and loop material. It is to be understood, however, that the illustrated hook and loop material tabs **80** are exemplary for the first end **36** attacher **54**. Any other first end **36** attachers **54** could be

used that are known or to be discovered in the art. By way of example, and not intending to be limiting, the attachers **54** could be hooks, pins, screws, bolts, rivets, buttons, ties, zippers, clamps, clips, snaps, tabs and the like, including those that will be described in more detail later in relation to joint attachers **54**. In addition, it would be possible for a second end **38** attacher **54** to be a hook and loop material tab **80**.

The second end **38** of the attachment member **34** could be fixedly attached to the arm member **32** by any manner or means currently known in the art or to be discovered that will keep the attacher **54** affixed to the arm member **32**. By way of example, and not intending to be limiting, the attachers **54** could be sewn, glued, molded, fused, bolted, screwed or the like to the arm member **32**. In addition, an attachment member **34** could simply be looped around a loop of some kind attached to the arm member **32**, and the looped attachment member **34** thereafter attached to itself by a means the could include, but is not limited to, crimping, sewing, fusing, gluing, and the like.

In addition, the second ends **38** of the attachment members **34** can be removably attached by a variety of means and mechanisms currently known in the art or to be discovered. By way of example, and not intending to be

limiting, the second ends **38** could be hooked into the arm member **32** as illustrated in Figs. **1A, 2, 5, and 6**. In addition to the embodiments shown, and those to be described later in relationship to the other Figures, second end **38** attachers **54** could include, but are not limited to, hook and loop material, buttons, ties, zippers, bolts, rivets, screws, clamps, clips, snaps, tabs, pins, hooks and the like.

As seen in Figs. **9, 11A, 11B, 12, 14, 15, 18, 21A, and 23**, the ends of more than one attachment member **34** can be attachable to the arm member **32** by a single joint attacher **82**. The joint attacher **82** could be any manner or mechanism illustrated in relation to any attacher **54** that can be used for a single intermediate portion **40** or any manner or mechanism known or to be discovered that would keep more than one intermediate portion **40** attached to the arm member **32** by a single attacher.

In Figs. **9, 11A, 11B, 18, and 21A**, a first end **36** joint attacher **82** is a hook **60**. In Fig. **15**, an attachment tab **80** is the first end **36** joint attacher **54**. The tab **80** can be made of a hook and loop material, which is often known under the trademark VELCRO®. When hook and loop material is used, generally, the arm member **32** would be made of the loop material of the hook and loop material,

and the tab **80** would be made of the hook material; however it is to be understood that the opposite arrangement would be possible. The embodiments illustrated in these Figures also include an optional ring **84** onto which the ends of the intermediate portions **40** attach and onto which the first end **36** joint attacher **54** in the form of a hook **60** or tab **80** attach.

As most clearly illustrated in Figs. **12** through **14**, and **21A** through **23**, the at least one attachment member **34** can be removable. In this embodiment, an attachment member **34** is removably attachable to the arm member **32** at both the first end **36** and the second end **38**. It is to be noted that the removable attachment member **34** could be interchangeable within a device **30**, so that more than one attachment member **34** could be used interchangeably with one arm member **32**. Conversely, one removable attachment member **34** could be used interchangeably with more than one arm member **32**. Accordingly, various attachment members **34** could vary in a number of ways. The attachment members **34** could vary in ways that could include, but would not be limited to, having different numbers of intermediate portions **40**, sizes, densities of intermediate portions **40**, materials, attachers **54**, and the like.

The embodiment of an attachment member **34** illustrated in Fig. **12** includes a first end **36** bracket attacher **94** and a second end **38** bracket attacher **94** that are shaped brackets. In the embodiment shown in Fig. **12**, the bracket attacher **94** is a joint attacher **82**. The bracket attachers **94** are attachable to the arm member **32** by looping around a protrusion **96** in the arm member **32**. Any protrusion that will hold the bracket can be used. Protrusions that would hold a bracket attacher **94** to the arm member **32** include, but are not limited to, rivets, buttons, bolts, spikes, screws, nails, posts, and the like. As also illustrated in this embodiment, one or both of the bracket attachers **94** can have a pull tab **98**, which can be pulled by the user to easily attach or release the attacher **54** to the arm member **32**.

The bracket attacher **94** is an attacher **54** that had a somewhat firm shape. The bracket includes a fastening portion **102** and at least one side portion **104**. Optionally, a bridge member **106** can be connected to the at least one side portion **104**. An intermediate portion **40** can be attached to the side portion **104** and/or bridge portion **106**. A bracket attacher **94** can have various types configurations. In Figs. **12**, **13**, **14**, **21A** through **21C**, and **24A** through **14C**, the bridge portion **106** is a cross piece

onto which the at least one intermediate portion **40** is attached. Optionally, the bridge portion **106** can have at least one connector loop **108**. Fig. **15** illustrates a bridge portion **106** that does not have connector loops **108**. Figs. **16**, **17**, **22** and **23** illustrate a side portion **104** that has a connector loop **108**, but that does not include a bridge portion **106**. The connector loops **108** can also serve the purpose of keeping the attachment members **34** separated from each other on the attacher **54** and on the hand of the user when the device **30** is in use.

Generally, the bracket attacher **94** will have a rather stiff shape. The bracket attacher **94** can be made of any material that will keep a stiff shape, including but not limited to, metals, woods, plastics, paper, stiffened textiles, and the like. It is to be noted that a bracket attacher **94** can attach one or more intermediate portions **40** to an arm member **32**. By way of example, and not intending to be limiting, Fig. **12** illustrates three intermediate portions **40** and Figs. **14** and **15** illustrate two intermediate portions **40**.

While the removable attachment members **34** illustrated in Fig. **21** include joint bracket attachers **94**, it is to be understood that other attachers **54** could be utilized in a removable attachment member **34**. The attachers **54**

illustrated in Figs. 1A through 3 illustrate removable attachment members 34 that include a hook 60 on the second end 38 and a hook and loop material tab 80 on the first end 36.

The attachers 54 illustrated in Figs. 5 and 6 include an end tab 72 on the second end 38 and a hook and loop material tab 80 on the first end 36. In this embodiment, the first end 36 and the intermediate portion 40 of the attachment member 34 can be passed through the arm member opening 70. An end tab 72 is attached to the first end 36 of the attachment member 34. The end tab 72 is larger in diameter or width than the arm member opening 70. As a result, the end tab 72 cannot pass through the opening 70; thereby holding the attachment member 34 to the arm member 32.

The attachers 54 in Figs. 17, 18 and 21A through 21C illustrate a first end 36 joint attacher 82 that includes a hook-like fastener 126 and a second end 38 joint bracket attacher 82.

Figs. 12 through 14, and 21A through 23 clearly illustrate an embodiment of an object restraining system 130 that includes a removable attachment member 34 and an arm member 32. In these embodiments, the removable attachment member 34 is attachable both at the first end 36

and the second end **38** by utilizing a rivet **128** and a joint bracket attacher **94**. The bracket attachers **94** in these embodiments are looped around the head of the rivet **128** and the post portion **132** of the rivet, which is the portion that is lodged between the head of the rivet and the arm member **32**. The attacher **54** is stopped by the post portion **132** of the rivet. In this manner, the attachment member **34** is rotatably attachable to the arm member **32**, which creates a snug fit and mobility in response to different users' hands and objects **50** and their movements. It is to be understood that the combination of types of arm members **32** and removable attachment members **34** illustrated are exemplary. A variety of other kinds of removable attachment members **34**, including those already described and to be described later, and a variety of other combinations of attachers **54** and intermediate portions **40** can be paired with an arm member **32** for other embodiments of the object restraining system **130**. In addition, a variety of other types of arm members **32**, including those already described and to be described later, can be paired with at least one removable attachment member **34** for other embodiments of an object restraining system **130**.

In Figs. **9** through **11B**, **17** and **18**, an embodiment is illustrated in which a raised portion **86** is added to the

arm member **32**. The raised portion **86** is included to enable a quick and secure attachment area on the arm member **32** for a hook-like fastener **126** attacher **54** to attach the attachment member **34** to the arm member **32**. The raised portion **86** has a front side **88** and a back side **90**. The back side **90** is the farthest side from the direction from which the attachment member **34** extends to meet the arm member **32**. The raised portion **86** gives the teeth **134** of the hook-like fastener **126** a greater surface on which to attach, and creates an angled surface into which the hook-like fastener **126** may be affixed. The angle of the attachment of the teeth **134** in the raised portion **86** creates a stable attachment.

It is to be understood, however, that the hook-like fastener **126** could be attached to the arm member **32** without the benefit of the raised portion **86**. In addition, while the illustrations show the raised portion **86** on the palm side **44** of the hand, it would be possible to include the raised portion **86** on the outer side **46** of the hand. In such a configuration, a first end **36** attacher **54** could be attached on an outer side **46** raised portion **86**. Alternatively, the first end **36** attacher **54** could be pulled around the hand to a raised portion **86** on the outer side **46**.

of the hand, whereby both the first and second ends **38** terminate on the same side of the arm **56** or the hand.

Reference is now made to Figs. **15** through **17**, and **21A** through **22**, which illustrate an arm member **32** that has a pivoting portion **92**. It is to be noted that Figs. **15** and **16** illustrate the arm member **32** while looking at the inside side of the arm member **32**. The inside side is the side that would be touching the hand **42** or arm **56** of the user when worn by the user. The pivoting portion **92** can pivot when the at least one attachment member **34** is positioned around the object **50**. Generally, the pulling motion of the at least one attachment member **34** when it is positioned around the object **50** pulls on the attachment element **136** of the arm member **32**. Thereby the pivoting portion **92** is pulled toward the fingertips of the user, which causes the pivoting portion **92** to pivot. The pivoting action of the pivoting portion **92** causes the arm member **32** to closely follow the contours of the hand of the user when the object **50** pulls on the attachment member **34**. The pivoting action thereby causes a tight fit of the arm member **32** on the hand of the user when the object **50** causes the pull on the attachment element **136**.

The pivoting portion **92** can be created by attaching two ends of the arm member **32** at the attachment element **136**

in a manner that includes a diagonal portion **140** on the upper edge **146** of the two ends **146**. The upper edge is the edge that is closest to the arm **56** and farthest from the fingertips. Any piece that can pull the two ends **146** toward the fingertips when the at least one attachment member **34** is positioned around the object can be an attachment element **136**. By way of example and not intending to be limiting, the attachment element **136** can be a rivet that transects the two ends **142** of the arm member **32**, and can hold them together. The attacher **54** of the attachment member **34** can attach to the arm member **32** by looping around the rivet **128** or the post **132** of the rivet. The pull on the attachment member **34** thereby pulls on the rivet **128**, which in turn pulls the two ends **142** of the arm member **32** toward the fingers **58** of the user. The diagonal portion **140** on the upper edge **146** of the two ends of the arm member **32** in turn causes the pivot to occur.

Optionally, the pivoting portion **92** can further have a memory member **100**. The memory member **100** could be any material that has a memory, such as but not limited to elastic, rubber and the like. As illustrated in Fig. **15**, the memory member **100** stretches when the pivoting portion **92** pivots. As illustrated in Fig. **16**, when the attachment member **34** stops pulling the arm member **32**, the memory

member 100 returns to its at rest shape and assists the arm member 32 to fall flat on the arm 56 of the user and to no longer pivot.

As illustrated in Figs. 21A through 21C, when the object 50 causes the attachment member 34 to pull on the attachment element 136, the pivoting portion 92 is caused to pivot. Then, as illustrated in Fig. 21C, when the object 50 no longer is located between the user's hand 42 the attachment member 34, the attachment member 34 is pulled with less force, and the pivoting portion 92 no longer pivots.

The pivoting portion 92 also can optionally have a covering piece 144. The covering piece 144 is a piece of material that covers the diagonal portion 140 at the upper edge 146 of the two ends of the arm member 32. It is to be understood that the covering piece 144 could have a memory or it could also be a material that does not have a memory. As seen in Figs. 16 and 21C, the covering piece 144 creates a straight edge on the upper edge 146 of the arm member 32 when the pivoting portion 92 is not pivoting. When the pivoting occurs, the covering piece 144 may pucker, as seen in Figs. 15, 17, 21A and 21B.

Referring now to Figs. 19A through 20C, a system 148 for restraining an object 50 to a hand of a user 142 is

illustrated. The system includes an object restraining device **30**, and an object **50** having at least one groove **110**. The at least one attachment member **34** is retainable in the at least one groove **110**. The grooves **110** illustrated in Figs. **19A** through **19C**, are integrally attached to the object **50**. These Figures illustrate a handle **52** of a gun **150** into which two grooves **110** have been molded. It is to be understood that the grooves **110** could be integrally attached to the object **50** in other manners, such as, but not limited to, carving, cutting, bolting, burning and the like. In Fig. **19B**, the grooves **110** are included on both sides of the handle **52**. In this manner, a left-handed or a right-handed user could use the grooves **110**.

Figs. **20A** through **20C** illustrate an embodiment of the system **148** in which at least one groove member **112** is attachable to an object **50**. Figs. **20A** and **20B** illustrate a groove member **112**, that is attachable to an object **50**. The groove member **112** includes a groove **110** and an object surface **114**. The groove **110** has a concave shape, into which the attachment member **34** of the object restraining device **30** may be placed when in use. The object surface **114** is attachable to the object **50**. The object surface **114** can attach to the object **50** in a variety of ways, which include, but are not limited to, adhesive, glue, hook and

loop material, fusion, screws, and the like. In Fig. 20B, an adhesive **156** is located on the object surface **114**. Optionally, a non-adhesive strip **116** may removably cover the adhesive **156** when the groove member **112** is not in use. In this embodiment, to attach the groove member **112** to the object **50**, the non-adhesive strip **116** is pulled away, thereby exposing the adhesive. Thereafter, the object **50** surface can be affixed to the object **50**.

It is to be understood that it is within the scope of the invention for the groove members **112** to be permanently affixable to the object **50** or removably affixable to the object **50**. Various means of attachment currently known in the art or to be discovered could be used to attach the at least one groove member **112** to the object **50**.

It is to be understood that the grooves **110** could be included on only one side of the handle **52**. In such a case, the handle **52** could have a finger side, which would be the side of the handle **52** that would be opposite the palm side **44** of the hand **42** when in the preferred functioning position when in use. The grooves **110** could be attached to or imbedded in the finger side of the object **50**. When the user does not have a preferred functioning position, such as when the object **50**, such as a knife **76**, does not have a specific front and back, the grooves could

be placed on one side of the object **50** without regard to identifying a finger side.

Generally, the groove member **112** will be attachable and grooves **110** will be added to the handle **52** of the object **50**. However, it would be possible to attach the at least one groove member **112** or groove **110** to other portions of an object **50**, particularly if other portions are held by the user.

The embodiments of the object restraining devices **30** of the current invention can be used for a variety of purposes. The device **30** can help to keep the object **50** in contact with the hand **42** or arm **56** of the user. The device **30** can stabilize the device **30** in the hand **42** of the user, thereby augmenting the grip of the user. In addition, in some embodiments, the device **30** can hold or affix the object **50** to the user's hand **42** or arm **56**, as specifically illustrated in Figs. **10**, **13**, and **14**. In some embodiments, the device **30** can merely keep the object **50** in proximity to the user's arm **56** or hand **42**.

Referring now to Figs. **17** and **18**, it can be seen in these Figures, as well as in other Figures, that to use the device **30**, the first end **36** can be extended from one side of the hand **42** around the object **50** and attached to the arm member **32** on the other side of the hand **42**, while the

object **50** is gripped by the user. In addition, when the attacher **54** is a joint attacher **82**, the user can extend the attachment member **34** from one side of the hand **42** to the other side of the hand **42** in one motion. When the object **50** is a gun **150**, it can be seen that the user can keep the gun motionless, and therefore on target, while attaching the first end **36** to the arm member **32**. Advantageously, when the object **50** is a gun **150**, while extending the attachment member **34** from one side of the hand to the other side of the hand, the user can avoid passing his or her hand **42** in front of the barrel **118** of the gun.

As seen in Fig. **10**, the invention can also be used as a stick training aid system **152**. The training aid system **152** includes at least one practice stick **78** and an object restraining device **30** for connecting the practice stick **78** to a hand of a user. The practice stick **78** is attachable to the user's hand **42** by extending at least one attachment member **34** of the object restraining device between the palm side **44** and the outer side **46** of the hand of the user, wherein the practice stick **78** is positioned between the hand **42** and the at least one attachment member **34**. As seen in Fig. **10**, the object restraining device **30** keeps the practice stick **78** in contact with the hand of the user, even when the user's hand **42** is not clutching the practice

stick **78**. As a result, when a user is practicing various maneuvers with a practice stick **78**, rather than with an actual, gun, knife, sword, etc., if the user loses his or her grip on the object **50**, the object **50** will not fly out of the user's hand **42**. This would be a beneficial system for training users in the use of various objects **50**, because, among other reasons, during training, the guard of the user, bystanders and opponents may be down, and if the training stick were to fly out of the user's hand **42**, someone could be inadvertently injured. In addition, this could be a beneficial system, because practice sticks **78** are often used by novices, and the object restraining device **30** would assist the user to hold, grip, stabilize and/or use the practice stick **78**.

Reference is now made to Figs. **17**, **18**, **21A**, **21B** and **21C**. As illustrated in Figs. **17** and **18**, the device **30** can stabilize or hold the object **50** in the user's hand **42**. When the user wants to release the object **50** without the assistance of a second hand, the user can slip his or her hand off the handle **52** of the object **50**, as seen in Figs. **21A**, **21B** and **21C**, while still wearing the device **30**. In order to slip the hand off the object **50** in this manner, the non-handle **52** portion of the object **50** should be restrained. In Fig. **21A** the barrel **118** of a gun is

restrained by a holster **120**. However, it is to be noted that the non-handle **52** portion of the object **50**, could be restrained by any number of ways. By way of example, and not intending to be exhaustive or limiting, the object **50** could be restrained by: placing the object **50** between the body of the user and the user's arm **56**; the object **50**, especially a knife **76**, a hatchet **74** and the like could be inserted into another object, such as piece of wood; the object **50** could be placed under a heavy item such as a rock; or another person could hold the object **50**.

As illustrated in Fig. **21B**, once the object **50** is partially restrained, the hand can be slid off the bottom of the handle **52**. Afterward, as illustrated in Fig. **21C**, the user can release his or her hand from the object **50** while the device **30** remains attached to the hand **42** of the user.

Alternatively, as seen in Fig. **22**, the object **50** can be released from the device **30** with a flick of the wrist **48** of the user. In this case, having weight on the non-handle portion of the object **50** would be helpful. However, the ease with which the object **50** could be released from the hand of the user with a flick of the wrist **48** would vary according to a number of variables, including, but not limited to, the force of the wrist flick, the degree to

which the attachment members **34** are tightly attached, the width of the attachment members **34**, and the weight and density of the various portions of the object **50**.

Reference is now made to Fig. **23**. This Figure illustrates the use of the device **30** to minimize muzzle flip when the gun **150** is fired. Muzzle flip occurs when the force of the firing of a gun **150** forces the barrel **118** upward and the handle **52** forward. In cases of extreme muzzle flip, the gun can be jolted out of the hand **42** of the user. The device **30** serves the purpose, among others, of stabilizing the gun **150** in the hand of the user and reducing the force of muzzle flip. As seen in this Figure, the backward force of the attachment members **34** directed toward the hand **42** of the user counters the forward force of the handle **52** when the gun is fired.

Reference is now made to Figs. **24A** through **24C**. These illustrations show other embodiments of the device **30** in which the attachment members **34** could be used to restrain a body member of a living being **154**. In these illustrations the device **30** is being used to choke a human.

It is to be noted that there are many law abiding instances in which a user of the device **30** might want to use it for choking or otherwise restraining a living being **154**. Such uses include, but are not limited to, self-

defense, law enforcement, combat, military uses and the like.

As illustrated in Fig. 24B, the user can wear the device 30 on one arm 56, hold a loose end of the at least one attachment member 34 with the other hand, and position the human or animal between the user's two hands and/or arms with the attachment member 34 pressing against the human or animal. While any body part of the living being could be pressed by the attachment member 34, for purposes of choking, the neck would be the area of the body pressed by the attachment member 34. It is further to be noted that the user can hold the actual loose end of the attachment member 34, or if the device 30 has one, the user can hold a single attacher 54 or a joint attacher 82.

As illustrated in Fig. 24C, the user could also pull the loose end of the at least one attachment member 34 to the arm member 32 and attach it thereto with the body part of the human or animal positioned between the at least one attachment member 34 and the user's hand 42 or arm 56.

It is further to be understood that the in the embodiment illustrated in Fig. 24C, the at least one attachment member 34 might extend between two sides of the user's hand 42 or arm 56. Alternatively, the both the

first end **36** and the second end **38** might attach to the same side of the user's hand **42** or arm **56**.

It is also to be noted that for these embodiments, the attachment members **34** could be of various lengths. It is possible that the at least one attachment member **34** could be long enough that when it is at rest on the arm **56** of the user, it could wrap fully around the wrist **48** one or more times.

Further, it is to be noted that the other elements of the object restraining device **30** that are previously described could be used also in relation to these embodiments.

Although the invention has been illustrated by reference to specific embodiments, it will be apparent, to those of ordinary skill in the art that various changes and modifications may be made which clearly fall within the scope of the invention. The invention is intended to be protected broadly within the spirit and scope of the appended claims.